Partner: Denon
Model: AVR-3313CI
Device Type: Receiver

GENERAL INFORMATION

SIMPLWINDOWS NAME:	Denon AVR-3313CI IP v1.0
CATEGORY:	Receiver
VERSION:	1.0
SUMMARY:	Controls all of the standard functions and provides true feedback via TCP/IP.
GENERAL NOTES:	This module will control all of the standard functions on a Denon AVR-3313CI AV Surround Receiver via TCP/IP. The unit provides true feedback. Functions provided include main zone control, zone 2 control, zone 3 control, surround mode selection, surround speaker level adjustments, and tuner band/preset selection. It is necessary to pulse the initialize once to synchronize unit's settings with the controller. This initialization takes approximately 5 seconds. **Note**: For surround mode selection, certain selections are only valid while certain Sources are selected. So choosing a particular surround mode may actually cause a slightly different mode to be activated on the Denon system. However, since true feedback is provided, the actual surround mode currently active will be reflected on the output of this module. The AVR-3313CI has an available surround back amplifier channel. If no surround back speakers are used in the main room, their amplifier channels can be assigned for multi-zone use or the front speaker's Bi-Amp connection. IPod and USB control are available at this time. **Note**: This module provides metadata for any Internet, USB or iPod sources. Be aware that when selecting one of the Internet sources, the cursor keys and Denon GUI is necessary, as the protocol provides us with a single list while the sources are set up in a 3x3 format. This module was tested with the Denon AVR-3313CI.
CRESTRON HARDWARE REQUIRED:	C2NENET-1, C2NENET-2
SETUP OF CRESTRON HARDWARE:	TCP/IP Port 23
VENDOR FIRMWARE:	Firmware Package Version: 1490-1179-0000-4332-1977
VENDOR SETUP:	Set Network Standby mode on by selecting SETUP MENU-->NETWORK--> IP CONTROL-->ALWAYS ON
CABLE DIAGRAM:	N/A

CONTROL:

Power_<On/Off/Toggle>	D	Pulse to turn power on or off.
Main_Zone_<On/Off/Toggle>	D	Pulse to turn main zone on or off.
Main_Volume_<Up/Down>	D	Press to adjust main zone volume.

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Main_Mute_<On/Off/Toggle>	D	Pulse to turn main mute on or off.
Main_Input_*	D	Pulse to select input for main zone.
Main_Favorite_Mode_<1-4>	D	Pulse to select favorite mode for main zone.
Main_Favorite_Mode_<1-4>_Memory	D	Pulse to store current settings as favorite for main zone.
Zone_2_<On/Off/Toggle>	D	Pulse to turn zone 2 on or off.
Zone_2_Volume_<Up/Down>	D	Press to adjust zone 2 volume.
Zone_2_Mute_<On/Off/Toggle>	D	Pulse to turn zone 2 mute on or off.
Zone_2_Input_*	D	Pulse to select input for zone 2.
Zone_2_Favorite_Mode_<1-4>	D	Pulse to select favorite mode for zone 2.
Zone_2_Favorite_Mode_<1-4>_Memory	D	Pulse to store current settings as favorite for zone 2.
Zone_3_<On/Off/Toggle>	D	Pulse to turn zone 3 on or off.
Zone_3_Volume_<Up/Down>	D	Press to adjust zone 3 volume.
Zone_3_Mute_<On/Off/Toggle>	D	Pulse to turn zone 3 mute on or off.
Zone_3_Input_*	D	Pulse to select input for zone 3.
Zone_3_Favorite_Mode_<1-4>	D	Pulse to select favorite mode for zone 3.
Zone_3_Favorite_Mode_<1-4>_Memory	D	Pulse to store current settings as favorite for zone 3.
HD_Tuner_Channel_<Up/Down>	D	Pulse to tune up or search up to the next station depending on the mode.
HD_Tuner_Preset_<Up/Down>	D	Pulse to select the next or previous stored preset.
HD_Tuner_Band_<AM/FM>	D	Pulse to set the HD tuner to the AM or FM band.
HD_Tuner_Keypad_<0-9>	D	Pulse to select an HD tuner station.
HD_Tuner_Keypad_Clear	D	Pulse to clear the HD tuner entry.
HD_Tuner_Keypad_Send	D	Pulse to request the HD tuner station entered.
HD_Tuner_Mode_*	D	Pulse to set HD tuner mode to (auto-HD/Auto/Manual/Analog_Auto/ Analog_Manual).

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Partner: Denon
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HD_Radio_Preset_Key_<0-9>	D	Pulse to enter an HD radio preset entry.
HD_Radio_Preset_Clear	D	Pulse to clear HD radio preset entry.
HD_Radio_Preset_Recall/Store	D	Pulse to recall the preset entry. Press and hold 5s to store the current station to the preset entry.
Net/USB/iPod_Cursor_<Up/Down/Left/Right>	D	Pulse to navigate through the network, USB or iPod menu.
Net/USB/iPod_Enter	D	Pulse to selected highlighted item in network, USB or iPod menu.
Net/USB/iPod_Play	D	Pulse to play a network, USB or iPod selection.
Net/USB/iPod_Pause	D	Pulse to pause a network, USB or iPod selection.
Net/USB/iPod_Stop	D	Pulse to stop a network, USB or iPod selection.
Net/USB/iPod_Skip_Forward	D	Pulse to skip forward to the next network, USB or iPod selection.
Net/USB/iPod_Skip_Reverse	D	Pulse to skip back to the previous network, USB or iPod selection.
Net/USB/iPod_Repeat_One	D	Pulse to set the repeat mode to one for the network, USB or iPod source.
Net/USB/iPod_Repeat_All	D	Pulse to set the repeat mode to all for the network, USB or iPod source.
Net/USB/iPod_Repeat_Off	D	Pulse to shut off the repeat mode for the network, USB or iPod source.
Net/USB/iPod_Random_On/Repeat_All/Shuffle_Songs	D	Pulse to either turn random mode on, repeat mode to all or shuffle songs. Dependent on what source is being used.
Net/USB/iPod_Random_Off/Shuffle_Off	D	Pulse to either turn random mode off or shuffle mode off. Dependent on what source is being used.
Net/USB/iPod_Browse_Mode/Remote_Mode	D	Pulse to set the iPod mode to browse or remote.
Net/USB/iPod_Page_Next	D	Pulse to go to the next page in list. Dependent on what source is being used.
Net/USB/iPod_Page_Previous	D	Pulse to go to the previous page in list. Dependent on what source is being used.
Net/USB/iPod_Enter/Exit_Party_Mode	D	Pulse to enter or exit party mode.
Cursor_<Up/Down/Left/Right>	D	Pulse to navigate through menus.
Cursor_Enter	D	Pulse to selected highlighted item in menu.

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Cursor_Return	D	Pulse to go to previous item in menu.
Cursor_Option	D	Pulse to navigate through menus.
Cursor_Info	D	Pulse to display information on GUI.
Setup_Menu_<On/Off>	D	Pulse to turn the setup menu on or off.
Trigger_1_<On/Off/Toggle>	D	Pulse to turn trigger 1 on or off.
Trigger_2_<On/Off/Toggle>	D	Pulse to turn trigger 2 on or off.
Record_Input_*	D	Pulse to select input for the record input.
Input_Mode_*	D	Pulse to set the input mode.
Digital_Input_Mode_<Auto/PCM/DTS>	D	Pulse to set the digital input mode.
Video_Select_Mode_*	D	Pulse to set video select mode.
Surround_*	D	Pulse to select the surround mode.
Quick_Select_Mode_<1-5>	D	Pulse to select quick select mode.
Quick_Select_Mode_<1-5>_Store	D	Pulse to store settings such as the input source selection, volume level, and surround mode to quick select mode.
HDMI_Monitor_*	D	Pulse to set HDMI mode.
HDMI_Audio_<Amp/TV>	D	Pulse to set HDMI audio to amp or TV.
Video_Processing_<Auto/Game/Movie>	D	Pulse to set video processing mode.
Tone_Control_<On/Off/Toggle>	D	Pulse to turn tone control on or off.
Surround_Back_*	D	Pulse to set surround back mode.
Cinema_EQ_<On/Off/Toggle>	D	Pulse to turn cinema EQ on or off.
Mode_*	D	Pulse to set mode to music, cinema, game or pro logic.
Front_Height_<On/Off/Toggle>	D	Pulse to turn front height on or off.
PLIIz_Height_Gain_<Low/Mid/High>	D	Pulse to set PLIIz height gain.
Speaker_Output_Set_*	D	Pulse to set the speaker output.

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MultiEQ_*	D	Pulse to set multi eq mode.
Dynamic_EQ_<On/Off/Toggle>	D	Pulse to turn dynamic EQ Toggle.
Dynamic_Volume_*	D	Pulse to set dynamic volume level.
Dynamic_Comp_*	D	Pulse to set dynamic compression level.
Subwoofer_<On/Off/Toggle>	D	Pulse to turn subwoofer on or off.
Front_Speaker_<A/B/A+B>	D	Pulse to set the front speaker to A, B or A+B.
DNR_*	D	Pulse to turn dynamic noise reduction level.
Front_Left_Channel_<Up/Down>	D	Press to adjust the left channel level.
Front_Right_Channel_<Up/Down>	D	Press to adjust the right channel level.
Center_Channel_<Up/Down>	D	Press to adjust the center channel level.
Subwoofer_Channel_<Up/Down>	D	Press to adjust the subwoofer channel level.
Surround_Left_Channel_<Up/Down>	D	Press to adjust the surround left channel level.
Surround_Right_Channel_<Up/Down>	D	Press to adjust the surround right channel level.
Surround_Back_Left_Channel_<Up/Down>	D	Press to adjust the surround back left channel level.
Surround_Back_Right_Channel_<Up/Down>	D	Press to adjust the surround back right channel level.
Surround_Back_Channel_<Up/Down>	D	Press to adjust the surround back channel level.
Front_Height_Left_Channel_<Up/Down>	D	Press to adjust the surround height left channel level.
Front_Height_Right_Channel_<Up/Down>	D	Press to adjust the surround height right channel level.
Front_Wide_Left_Channel_<Up/Down>	D	Press to adjust the surround wide left channel level.
Front_Wide_Right_Channel_<Up/Down>	D	Press to adjust the surround wide right channel level.
Initialize	D	Pulse to poll the unit for all of its settings.
{{TCP/IP_Client_>>_Connect-F}}	D	To be connected to the “Connect_F” input on the TCP/IP client definition.
{{TCP/IP_Client_>>_status}}	A	To be connected to the “status” input on the TCP/IP client definition that will be communicating with the unit being controlled.

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{{TCP/IP_Client_>>_RX$}}	S	To be connected to the “RX$” input on the TCP/IP client definition that will be communicating with the unit being controlled.

FEEDBACK:

Power_Is_<On/Off>	D	Indicates that the power is on or off.
Main_Zone_Is_<On/Off>	D	Indicates that the main zone is on or off.
Main_Volume_Text	S	Displays the main volume level.
Main_Volume_Gauge	A	Indicates the main volume level for a gauge object (0d - 65535d).
Main_Mute_Is_<On/Off>	D	Indicates that the main mute is on or off.
Main_Input_Is_*	D	Indicate the current input for the zone 2.
Zone_2_Is_<On/Off>	D	Indicates that zone 2 is on or off.
Zone_2_Volume_Text	S	Displays the zone 2 volume level.
Zone_2_Volume_Gauge	A	Indicates the zone 2 volume level for a gauge object (0d - 65535d).
Zone_2_Mute_Is_<On/Off>	D	Indicates that the zone 2 mute is on or off.
Zone_2_Input_Is_*	D	Indicate the current input for the zone 2.
Zone_3_Is_<On/Off>	D	Indicates that zone 3 is on or off.
Zone_3_Volume_Text	S	Displays the zone 3 volume level.
Zone_3_Volume_Gauge	A	Indicates the zone 3 volume level for a gauge object (0d - 65535d).
Zone_3_Mute_Is_<On/Off>	D	Indicates that the zone 3 mute is on or off.
Zone_3_Input_Is_*	D	Indicate the current input for the zone 3.
HD_Tuner_Freq_Text	S	Displays the current tuner frequency.
HD_Multi_Cast_Channel_Text	S	Displays the multi cast channel text.
HD_Tuner_Preset_Text	S	Displays the HD tuner preset text.
HD_Tuner_Band_Is_<AM/FM>	D	Indicates that the selected HD tuner band is AM or FM.
HD_Station_Name_Text	S	Displays the HD station name.
HD_Station_Long_Name_Text	S	Displays the HD station name in long format.

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HD_Signal_Status_Text	S	Displays the HD tuner signal status.
HD_Multi_Cast_Curr_Channel_Text	S	Displays the HD multi cast current channel.
HD_Multi_Cast_Channel_Num_Text	S	Displays the HD multi cast channel number.
HD_Program_Type_Text	S	Displays the HD program type.
HD_Artist_Name_Text	S	Displays the HD artist name.
HD_Title_Name_Text	S	Displays the HD title name.
HD_Album_Name_Text	S	Displays the HD album name.
HD_Genre_Text	S	Displays the HD genre.
HD_Tuner_Mode_Is_*	D	Indicates the current HD tuner mode.
HD_Preset_Value_Text	S	Displays the HD preset value.
HD_Radio_Preset_Recall/Store_Status	D	Indicates the HD Radio Preset Recall/Store State. If the feedback oscillates, that means that a preset was stored.
Display_Line_<1-9>_Text	S	Displays lines 1 through 9 of the Net/USB/iPod metadata.
Display_Line_<1-8>_Text_Highlighted	D	Indicates that one line, either 1 through 8, of the Net/USB/iPod metadata is highlighted.
Trigger_1_Is_<On/Off>	D	Indicates that trigger 1 is on or off.
Trigger_2_Is_<On/Off>	D	Indicates that trigger 2 is on or off.
Record_Input_Is_*	D	Indicates the current selection for the record input.
Input_Mode_Is_*	D	Indicates the current input mode.
Digital_Input_Mode_Is_<Auto/PCM/DTS>	D	Indicates the current digital input mode.
Video_Select_Mode_Is_*	D	Indicates the current video select mode.
Surround_Mode_Text	S	Displays the current surround mode setting.
Quick_Select_Is_Mode_<1-5>	D	Indicates the current quick select mode that is selected.
HDMI_Monitor_Is_*	D	Indicates that the HDMI monitor is set to out 1, 2 or auto.
HDMI_Audio_Is_<Amp/TV>	D	Indicates that the HDMI audio is set to amp or TV.

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Video_Processing_Is_<Auto/Game/Movie>	D	Indicates that the video processing is set to auto, game or movie.
Tone_Control_Is_<On/Off>	D	Indicates that the tone control is on or off.
Surround_Back_Is_*	D	Indicates the surround back mode setting.
Cinema_EQ_Is_<On/Off>	D	Indicates that the cinema EQ is on or off.
Mode_Is_*	D	Indicates that the mode is set to music, cinema, game or pro logic.
Front_Height_Is_<On/Off>	D	Indicates that front height is currently on or off.
PLIIz_Height_Gain_Is_*	D	Indicates that the PLIIz height gain is low.
Speaker_Output_Set_Is*	D	Indicates the speaker output setting.
MultiEQ_Is_*	D	Indicates the multi eq is setting.
Dynamic_EQ_Is_<On/Off>	D	Indicates that the dynamic EQ is on or off.
Dynamic_Volume_Is_*	D	Indicates the dynamic volume setting.
Dynamic_Comp_Is_*	D	Indicates the dynamic compression setting.
Subwoofer_Is_<On/Off>	D	Indicates that the subwoofer is on or off.
Front_Speaker_Is_<A/B/A+B>	D	Indicates that the front speaker is set to A, B or A+B.
DNR_Is_*	D	Indicates the dynamic noise reduction setting.
Front_Left_Level_Text	S	Displays the front left level.
Front_Right_Level_Text	S	Displays the front right level.
Center_Level_Text	S	Displays the center level.
Subwoofer_Level_Text	S	Displays the subwoofer level.
Surround_Left_Level_Text	S	Displays the surround left level.
Surround_Right_Level_Text	S	Displays the surround right level.
Surround_Back_Left_Level_Text	S	Displays the surround back left level.
Surround_Back_Right_Level_Text	S	Displays the surround back right level.
Surround_Back_Level_Text	S	Displays the surround back level.

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Front_Height_Left_Level_Text	S	Displays the front height left level.
Front_Height_Right_Level_Text	S	Displays the front height right level.
Front_Wide_Left_Level_Text	S	Displays the front wide left level.
Front_Wide_Right_Level_Text	S	Displays the front wide right level.
Is_Initializing	D	Indicates that the module is polling the unit for all of its settings.
Connected	D	High to indicate that there is an IP connection to the unit.
Connection_Status_Text	S	Indicates the current IP connection status to the unit.
{{Connect_>>_TCP/IP_Client}}	D	To be connected to the “Connect” output on the TCP/IP client definition that will be communicating with the unit being controlled.
{{TX$_>>_TCP/IP_Client}}	S	To be connected to the “TX$” output on the TCP/IP client definition that will be communicating with the unit being controlled.

TESTING:

OPS USED FOR TESTING:	2-Series: v4.007.0004 3-Series: v1.005.0007
SIMPL WINDOWS USED FOR TESTING:	v4.02.08
DEVICE DB USED FOR TESTING:	v48.05.005.00
CRES DB USED FOR TESTING:	v37.05.005.00
SYMBOL LIBRARY USED FOR TESTING:	v855
SAMPLE PROGRAM:	2 Series: Denon AVR-3313CI IP v1.0 PRO2.smw 3 Series: Denon AVR-3313CI IP v1.0 MC3.smw
REVISION HISTORY:	v1.0

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